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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,174	07/11/2003	Jong-Jin Lee	1293.1799	2990

21171 7590 01/10/2006

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EXAMINER

GOMA, TAWFIK A

ART UNIT

PAPER NUMBER

2653

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/617,174		LEE, JONG-JIN	
	Examiner		Art Unit	
	Tawfik Goma		2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18 recites the limitation "the reference value" in line 1. There is insufficient antecedent basis for this limitation in the claim as it depends on claim 13. The examiner recommends that the claim be dependent on claim 17 in order to establish antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al (US Patent 6822936) in view of Masuda et al (US Patent 6501712).

Regarding claim 1, Ono discloses a method of discriminating a type of disc (fig. 2), comprising: detecting a time (Ta, Tb, fig. 3) corresponding to a distance from a surface of the disc to a data recording layer of the disc using light reflected during a focusing operation (2030, fig. 2 and col. 7 lines 24-33); and discriminating the type of

disc by comparing the detected time and a reference value (col. 7 lines 33-37). Ono fails to disclose where the method comprises stopping an operation of a motor rotating a disc. In the same field of endeavor Masuda et al (US Patent 6501712) discloses a disc discrimination method wherein the method includes the step of performing the detection while the disc rotation is stopped (S1, fig. 5). It would have been obvious to one of ordinary skill in the art to modify the disc discrimination method taught by Ono by stopping the rotation of the disc while detecting the signal as taught by Masuda. The rationale is as follows: One of ordinary skill in the art would have been motivated to stop the rotation of the disc while detecting the signal in order to eliminate the effects of laser light damage to the disc (See Masuda col. 6 lines 28-35). Detecting the signal while the disc rotation is stopped is also obvious in order to eliminate the effects of rotation noise on the detection signal.

Regarding claim 2, Ono further discloses wherein the detection of the time corresponding to the distance comprising detecting the time using a focusing error signal detected during the focusing operation (fig. 3A, 3b).

Regarding claim 3 and 5, Ono further discloses wherein the discrimination of the type of disc comprises discriminating between a CD disc type and a DVD disc type (2030, fig. 2 and col. 7 lines 43-48).

Regarding claims 4 and 6, Ono further discloses wherein the discrimination of the type of disc comprises determining the disc as a CD disc type when the detected time is greater than the reference value and as a DVD disc type when the detected time is less than the reference value (2030, fig. 2 and col. 7 lines 43-48).

Regarding claims 7 and 13, Ono discloses an apparatus for discriminating a type of disc (fig. 1), comprising: a motor rotating a disc (1140, fig. 1); a pickup detecting light reflected from the disc (1020, fig. 1); and a system controller performing a control process of enabling a focusing operation on the disc (1090, fig. 1) and discriminating the type of disc according to a result of detecting a time corresponding to a distance from a surface of the disc to a data recording layer of the disc using a light reflected during the focusing operation on the disc (Ta, Tb, fig. 3 and col. 7 lines 33-37). Ono further discloses a driving circuit to control a focusing operation (1100, fig. 7) and an amplifier for converting the signals into electrical signals (1030, 1050, fig. 1). Ono fails to disclose wherein the system controller stopping an operation of the motor in a disc type discrimination mode. In the same field of endeavor Masuda et al (US Patent 6501712) discloses a disc discrimination apparatus wherein the disc rotation is stopped prior to detecting the signal (S1, fig. 5). It would have been obvious to one of ordinary skill in the art to modify the disc discrimination apparatus taught by Ono by stopping the rotation of the disc while detecting the signal as taught by Masuda. The rationale is as follows: One of ordinary skill in the art would have been motivated to stop the rotation of the disc while detecting the signal in order to eliminate the effects laser damage to the disc (see Masuda col. 6 lines 28-35). Detecting the signal while the disc rotation is stopped is also obvious in order to eliminate the effects of rotation noise on the detection signal. Further in regard to claim 13, Ono does not specifically disclose an RF amplifier that amplifies the signal but it is obvious that the signal is amplified in order to generate the focus error signal as taught by Masuda (25-27, fig. 1). It is

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obvious to amplify the detection signal in order to properly calculate the focus error signal.

Regarding claim 8, Ono further discloses an amplifying unit producing a focusing error signal based on a light signal output from the pickup (1050, fig. 1), wherein the system controller utilizes the focusing error signal to detect the time (1090, fig. 1 and fig. 3). Ono does not specifically disclose that the focus error generating unit amplifies the signal but it is obvious that the signal is amplified in order to generate the focus error signal as taught by Masuda (20-27, fig. 1). It is obvious to amplify the detection signal in order to properly calculate the focus error signal.

Regarding claim 9, 11 and 14, Ono further discloses wherein the system controller discriminates the type of disc between a CD disc type and a DVD disc type (2030, fig. 2 and col. 7 lines 43-48).

Regarding claim 10, 12 and 17, Ono further discloses wherein the system controller determines the disc as a CD disc type when the detected time is greater than a reference value and as a DVD disc type when the detected time is less than the reference value (col. 7 lines 43-48).

Regarding claim 15, Masuda further discloses a servo controller (14, fig. 6), wherein when the disc drive is in a disc discrimination mode (fig. 5), the system controller (39, fig. 6) stops the operation of the motor via the servo controller and controls the pickup to perform the focusing operation on the disc (S1, fig. 5 and col. 4 lines 6-9).

Regarding claim 16, Masuda further discloses a driving circuit (14, fig. 1) stopping the operation of the motor, wherein the servo controller drives the pickup and the driving circuit when an instruction to stop the operation of the motor and the focusing operation of the pickup is received from the system controller (S1, fig. 5 and col. 4 lines 6-19).

Regarding claim 18, Ono in view of Masuda does not specifically disclose wherein the reference value is determined as a time value of 75 ms. However, Ono does disclose that the predetermine thickness value for a DVD is 1.2mm and for a CD is .6mm (col. 7 lines 9-13) and that the predetermined value should be between the two thicknesses so that they can be discriminated (col. 7 lines 43-47 and 2030, fig. 2). It would have been obvious to one of ordinary skill in the art to determine the predetermine value to be 75ms through experimentation. The rationale is as follows: One of ordinary skill in the art would have been motivated to have a predetermined time of 75ms as a time between the two thickness values (0.6mm and 1.2mm) in order to properly discriminate the detected time differences (see Ono col. 7 lines 43-47).

Regarding claims 19-21, Ono discloses a method of discriminating a type of disc in a disc drive (fig. 2), which comprises a disc (1010, fig. 1), a servo controller (1100, fig. 1), a spindle motor (1140, fig. 1), a pickup (1020, fig. 1), and a system controller (1090, fig. 1), the method comprising performing the focusing operation on the disc (2010, fig. 2); detecting a time corresponding to a distance from a surface of the disc to a data recording layer of the disc using an amount of light reflected on the disc and an FE signal (2020, fig. 2 and Ta, Tb, fig. 3); and comparing the time with a reference

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value (2030, fig. 2); wherein if the detected time is greater than the reference value the disc is determined to be a CD disc type (fig. 2), or if the detected time is less than the reference value the disc is determined to be a DVD disc type (fig. 2). Ono fails to disclose outputting a control signal to a servo controller to turn on the pickup while turning off the spindle motor. In the same field of endeavor, Masuda discloses a disc discrimination method that includes the step of turning on (S2, S3, fig. 5) the pickup (9, fig. 1) through the servo controller (36, fig. 1) while turning off (S1, fig. 5) the spindle motor (13, fig. 1). It would have been obvious to one of ordinary skill in the art to modify the method taught by Ono with the step of turning on the pickup and turning off the motor as taught by Masuda. The rationale is as follows: One of ordinary skill in the art would have been motivated to stop the rotation of the disc while detecting the signal in order to eliminate the effects of laser light damage to the disc (See Masuda col. 6 lines 28-35). Detecting the signal while the disc rotation is stopped is also obvious in order to eliminate the effects of rotation noise on the detection signal.


Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Watanabe et al (US Patent 6285635) discloses a disc discrimination method including the step of detecting a focus signal when the disc rotation is suspended.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tawfik Goma whose telephone number is (571) 272-4206. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tawfik Goma
1/4/2006


Thang V. Tran
Primary Examiner
1/4/2006